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UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN FRANCISCO DIVISION

GOOGLE LLC, Plaintiff v. SONOS, INC., Defendant.	CASE NO. 3:20-cv-06754-WHA Related to CASE NO. 3:21-cv-07559-WHA

DECLARATION OF DR. DAN SCHONFELD

HIGHLY CONFIDENTIAL - ATTORNEY EYES' ONLY
HIGHLY CONFIDENTIAL - SOURCE CODE

1. I have been retained as an independent expert witness in this action on behalf of Google, LLC ("Google") to testify as a technical expert concerning the technology at issue in U.S. Patent No. 10,848,885 ("the '885 patent"). I understand that Sonos, Inc. ("Sonos") has sued Google claiming infringement of claim 1 of the '885 patent. In this Declaration, I provide opinions on the general subject matter of the '885 patent and reasons that the accused products do not infringe the '885 patent.

2. I am being compensated for my work on this case at my standard consulting rate of $600/hr. My compensation is not contingent upon the results of my analysis or the substance of my testimony.

I. QUALIFICATIONS

3. My qualifications for forming the opinions set forth in this Declaration are summarized here and include my educational background, career history, publications, and other relevant qualifications.

4. I received my B.S. degree in Electrical Engineering and Computer Science from the University of California, Berkeley, California, in 1986 with a concentration on Computer Engineering / Systems Engineering. I received my M.S. degree in Electrical and Computer Engineering from The Johns Hopkins University, Baltimore, Maryland, in 1988 with a concentration on Speech Processing / Biomedical Signal Processing. I received my Ph.D. degree in Electrical and Computer Engineering from The Johns Hopkins University, Baltimore, Maryland, in 1990 with a concentration on Nonlinear Signal Processing / Image Analysis.

5. In August 1990, I joined the Department of Electrical Engineering and Computer Science at the University of Illinois, Chicago, Illinois, where I am a tenured Professor in the Departments of Electrical and Computer Engineering, Computer Science, and Bioengineering. Before I joined the University of Illinois at Chicago, I served as an instructor in the Department of Electrical and Computer Engineering at The Johns Hopkins University, Baltimore, Maryland.

6. At the University of Illinois at Chicago, I have served as the Director of the University-Industry Engineering Research Center (UIERC), formerly the Manufacturing Research

Center (MRC). I am also Co-Director of the Multimedia Communications Laboratory (MCL) and a member of the Signal and Image Research Laboratory (SIRL).

7. Over the past few decades, I have also served as a visiting professor in (a) the Advanced Analytics Institute (AAI) at the University of Technology, Sydney, Australia, (b) the Department of Information Engineering and Computer Science ("DISI") at the University of Trento, Italy, (c) the School of Computer Engineering at the Nanyang Technological University, Singapore, and (d) the Department of Electrical Engineering—Systems at Tel-Aviv University, Israel.

8. I have been elected Fellow of the Institute of Electrical and Electronics Engineers ("IEEE") "for contributions to image and video analysis" as well as Fellow of the International Society for Optics and Photonics ("SPIE") "for specific achievements in morphological image processing and video analysis." I have also been elected University Scholar of the University of Illinois. A complete list of my publications, professional activities, and honors that I have received is fully set forth in my curriculum vitae, attached hereto as Exhibit A.

9. I have previously served as Editor-in-Chief and Deputy Editor-in-Chief of the IEEE Transactions on Circuits and Systems for Video Technology. I have also previously served as Area Editor for special issues of the IEEE Signal Processing Magazine. I have served as Associate Editor of the IEEE Transactions on Image Processing (on image and video storage, retrieval and analysis), Associate Editor of the IEEE Transactions on Circuits and Systems for Video Technology (on video analysis), Associate Editor of the IEEE Transactions on Signal Processing (on multidimensional signal processing and multimedia signal processing), and Associate Editor of the IEEE Transactions on Image Processing (on nonlinear filtering). I have also served on the editorial board of the IEEE Signal Processing Magazine, EURASIP Journal of Image and Video Processing, Research Letters in Signal Processing, and Bentham Science Publishers, Ltd.'s "Recent Patents on Computer Science" and "Recent Patents on Electrical Engineering" publications. I have served as guest editor of numerous special issues in various journal publications in the area of multimedia systems.

10. I have previously served on the Conference Board of the IEEE Signal Processing Society. I have previously served as Technical Program Chair of the IEEE International Conference on Acoustics, Speech, and Signal Processing ("ICASSP") 2018 as well as Program Chair of the IEEE Conference on Visual Communications and Image Processing ("VCIP") 2015. I have also previously served as General Co-Chair of the Workshop on Big Data in 3D Computer Vision 2013 and the IEEE International Conference on Multimedia and Expo ("ICME") 2012. I have served as Chair of the IEEE Workshop on Video Mining 2008 and the SPIE Conference on Visual Communications and Image Processing 2007. I have also served on the organizing committees of various conferences including the IEEE International Conference on Image Processing 1998, 2012, and 2020, IEEE/SPIE International Conference on Visual Communications and Image Processing (VCIP) 2010, 2017, and IEEE Workshop on Nonlinear Signal and Image Processing (NSIP) 1997. I was an organizer of the Thematic Symposium on Multimedia Search and Retrieval at the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2009.

11. I have authored and co-authored over 250 technical papers for various journals and conferences. I was author of a book chapter, entitled: "Image and video communication networks," and later editions entitled: "Video communication networks." I was co-author (with Carlo Giulietti and Rashid Ansari) of a paper that won the Best Paper Award at the ACM Multimedia Workshop on Advanced Video Streaming Techniques for Peer-to-Peer Networks and Social Networking 2010. I was also co-author (with Junlan Yang) of a paper that won the Best Student Paper Award at the IEEE International Conference on Image Processing 2007. I was also co-author (with Wei Qu) of a paper that won the Best Student Paper Award at the IEEE International Conference on Image Processing 2006. I was also co-author (with Nidhal Bouaynaya) of a paper that won the Best Student Paper Award in Visual Communications and Image Processing 2006. In addition, many of my publications relate to the broad topic of multimedia systems, which includes audio, image, and video processing. My publications in the area of multimedia systems dates back to 1988.

12. I was the keynote speaker at the International Conference on Wireless Communications and Signal Processing (WCSP), Yangzhou, China, in 2016, and the International Conference on Intelligent Control and Information Processing (ICICIP) and International Conference on Brain Inspired Cognitive Systems (BICS), Beijing, China, in 2013. Further, I was a plenary speaker at the IEEE/IET International Conference on Audio, Language and Image Processing (ICALIP), Shanghai, China, in 2010, and at the IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS), Genoa, Italy, in 2009. I was also a plenary speaker at the INPT/ASME International Conference on Communications, Signals, and Systems (ICCSS), Rabat Morocco, in 1995 and 2001.

13. I have served as Representative of Regions 1-6 (North America) on the Chapters Committee of the IEEE Signal Processing Society. I have also served as Chairman of the IEEE Signal Processing Chicago Chapter. I have also served on the IEEE Image, Video, and Multidimensional Signal Processing (IVMSP) Technical Committee, formerly the IEEE Image and Multidimensional Signal Processing (IMDSP) Technical Committee, Visual Signal Processing and Communications (VSPC) Technical Committee, IEEE Signal and Image Processing in Medicine Technical Committee, and the IEEE Multimedia Communications Technical Committee. I currently serve on the American National Standards Institute (ANSI) / Underwriters Laboratory (UL) Standards Technical Panel ("STP") on Multimedia Systems.

14. I have also taught various courses that relate to multimedia systems. For example, since the late 1990s, I have introduced and taught an advanced undergraduate-level / first-year graduate-level course on multimedia systems (originally called multimedia communication networks), which focuses on audio, image, and video processing and communications.

15. I have also served as a consultant in various engagements related to multimedia systems. For example, over the past decade, I have served as an expert witness in several cases related to multimedia systems. In 1997, I served as a consultant for Prairiecomm Corp. where, among other tasks, I developed and deployed multimedia systems. Since 2002, I have also served as a member of the American National Standards Institute (ANSI) / Underwriters Laboratory (UL)

Standards Technical Panel (STP) on various standards related to multimedia systems.

16. Additionally, I have consulted for several companies in the area of signal processing and multimedia systems.

II. MATERIALS CONSIDERED

17. In forming the opinions that I express in this Declaration, I considered the materials referenced in this Declaration, including the '885 patent and all patents and patent applications to which the '885 patent claims priority, their prosecution histories, prior art references and products described in this Declaration.

III. LEGAL STANDARDS

18. I have been informed by counsel of various legal standards. I set forth my understanding below.

A. Person of Ordinary Skill in the Art

19. I have been advised that patent claims are reviewed from the point of view of a hypothetical person of ordinary skill in the art ("POSITA") at the time of the filing of the patent. I understand that, in determining the level of skill in the art, courts consider the type of problems encountered in the art, prior art solutions to those problems, rapidity with which innovations are made, sophistication of the technology, and the educational level of active workers in the field. I understand that not all of these factors will be relevant in a given case.

B. Patent Claims and Claim Construction

20. I understand that a patent may include two types of claims, independent claims and dependent claims. I understand that an independent claim stands alone and includes only the limitations it recites. I understand that a dependent claim can depend from an independent claim or another dependent claim, and that a dependent claim includes all the limitations that it recites in addition to all of the limitations recited in the claim from which it depends.

C. Non-Infringement

21. I understand that United States patent law gives the owner of a valid patent the right to exclude others from making, using, selling, or offering to sell in the United States, or importing

into the United States, the patented invention during the term of the patent. I further understand that, as discussed below, a party may be liable for infringement when: (1) a product or method is covered by a claim of the patent; and (2) in connection with the product or method, a party engages in one of the infringing activities defined by the Patent Act.

22. It is my understanding that an accused system and/or method literally infringes a claim of a patent if and only if the accused device or system contains every element of the claim. If the accused device or system does not contain one or more elements or steps recited in the claim, then there is no literal infringement of that claim.

23. I have been informed that if a given claim limitation is not literally present in an accused system or method, the accused feature or step in the system or method may nevertheless meet this limitation under the doctrine of equivalents.

24. I have been informed that the test for infringement under the doctrine of equivalents is whether the accused system or method possesses structure or steps that a person of ordinary skill in the art would think, at the time of infringement, is insubstantially different from the claim limitation.

25. I further understand that whether the difference is insubstantial can be analyzed using the "function–way–result" test, wherein the accused system is deemed to be equivalent to a claim limitation if the accused feature performs substantially the same function in substantially the same way in order to achieve substantially the same result. In deciding whether any difference between a claim requirement and the accused feature is insubstantial, I understand that I can consider whether, at the time of the alleged infringement, persons of ordinary skill in the field would have known of the interchangeability of the accused feature or step with the claimed element. However, the known interchangeability between the claimed element and the feature or step of the accused system or method is not necessary to find infringement under the doctrine of equivalents.

26. I also understand from counsel that there are some limitations on the application of the doctrine of equivalents. For example, I understand that the doctrine of equivalents cannot be

used to vitiate a claim limitation, i.e., to render that claim limitation meaningless. Therefore, in applying the doctrine of equivalents, each element contained in the claim is material to defining the scope of the patented invention and, therefore, the doctrine of equivalents cannot apply where it effectively would eliminate a claim element in its entirety. I also understand that the range of equivalents cannot be so broad as to encompass that which was already known in the prior art. I also understand that the doctrine of equivalents cannot be used to capture subject matter that was disclosed but not claimed by the patent applicant.

27. Additionally, I understand that the doctrine of prosecution history estoppel creates a rebuttable presumption prohibiting a patentee from arguing for patent coverage under the doctrine of equivalents that would be so broad that it would cover the same feature that the patentee distinguished from his invention during patent prosecution. I further understand that in order to overcome this presumption, a party must show one of the three following circumstances: the equivalent may have been unforeseeable at the time of the application; the rationale underlying the amendment may bear no more than a tangential relation to the equivalent in question; or there must be some other reason suggesting that the patentee could not reasonably be expected to have described the insubstantial substitute in question.

28. Even if a patentee is unable to show direct infringement by an entity, that entity may still be liable for "indirect" infringement by inducement or contributory infringement. A defendant induces infringement if the defendant actively induces a person to make, use, or sell a product or use a method that literally infringes an asserted claim. There must be a direct act of infringement, the accused party must actively induce this direct act, and the accused party must have known or should have known that his actions would induce infringement. Providing a device that another uses to infringe is not enough to establish liability for inducement of infringement. There must be some affirmative act by the defendant to induce the user to use the device in an infringing manner.

29. A defendant contributes to infringement if: (1) there has been an act of direct infringement; (2) the accused party offers to sell or sells within the United States or imports into

the United States a component of a patented machine, manufacture, combination, or composition, or a material or apparatus for use in practicing a patented process, that constitutes a material part of the invention; (3) and the accused party knows the same to be especially made or especially adapted for use in an infringement of the patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use.

IV. THE '885 PATENT

A. Background

30. The '885 patent is titled "Zone Scene Management." The patent was filed on April 12, 2019, and issued on November 24, 2020. The patent identifies Robert A. Lambourne as the inventor.

B. Specification

31. The '885 patent "is generally related to the area of consumer electronics and human-computer interaction," and "[i]n particular, the invention is related to method and apparatus for controlling or manipulating a plurality of multimedia players in a multi-zone system." '885 Pat. 1:30-35. The '885 patent claims priority to U.S. Provisional Application No. 60/825,407, filed on Sep. 12, 2006, entitled "CONTROLLING AND MANIPULATING GROUPINGS IN A MULTI-ZONE MEDIA SYSTEM."

32. The specification describes conventional multi-zone audio systems available at the time of the invention:

> Currently, one of the systems that can meet part of such demand is a conventional multi-zone audio system that usually includes a number of audio players. Each of the audio players has its own amplifier(s) and a set of speakers and typically installed in one place (e.g., a room). In order to play an audio source at one location, the audio source must be provided locally or from a centralized location. When the audio source is provided locally, the multi-zone audio system functions as a collection of many stereo systems, making source sharing difficult. When the audio source is provided centrally, the centralized location may include a juke box, many compact discs, an AM or FM radio, tapes, or others. To send an audio source to an audio player demanding such source, a cross-bar type of device is used to prevent the audio source from going to other audio players that may be playing other audio sources.

'885 Pat. at 1:46-61.

33. The specification discusses issues and benefits of those conventional systems:

> In order to achieve playing different audio sources in different audio players, the traditional multi-zone audio system is generally either hard-wired or controlled by a pre-configured and pre-programmed controller. While the pre-programmed configuration may be satisfactory in one situation, it may not be suitable for another situation. For example, a person would like to listen to broadcast news from his/her favorite radio station in a bedroom, a bathroom and a den while preparing to go to work in the morning. The same person may wish to listen in the den and the living room to music from a compact disc in the evening. In order to satisfy such requirements, two groups of audio players must be established. In the morning, the audio players in the bedroom, the bathroom and the den need to be grouped for the broadcast news. In the evening, the audio players in the den and the living room are grouped for the music. Over the weekend, the audio players in the den, the living room, and a kitchen are grouped for party music. Because the morning group, the evening group and the weekend group contain the den, it can be difficult for the traditional system to accommodate the requirement of dynamically managing the ad hoc creation and deletion of groups.

Id. at 1:62-2:17.

C. Asserted Claims

34. The '885 patent includes twenty claims, three of which are independent. I understand that Sonos has asserted claim 1 for the patent showdown. Claim 1 is reproduced below:

1. A first zone player comprising:

a network interface that is configured to communicatively couple the first zone player to at least one data network;

one or more processors;

a non-transitory computer-readable medium; and

program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the first zone player to perform functions comprising:

while operating in a standalone mode in which the first zone player is configured to play back media individually in a networked media playback system comprising the first zone player and at least two other zone players:

(i) receiving, from a network device over a data network, a first indication that the first zone player has been added to a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked; and

(ii) receiving, from the network device over the data network, a second indication that the first zone player has been added to a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the second zone player is different than the third zone player;

after receiving the first and second indications, continuing to operate in the standalone mode until a given one of the first and second zone scenes has been selected for invocation;

after the given one of the first and second zone scenes has been selected for invocation, receiving, from the network device over the data network, an instruction to operate in accordance with a given one of the first and second zone scenes respectively comprising a given one of the first and second predefined groupings of zone players; and

based on the instruction, transitioning from operating in the standalone mode to operating in accordance with the given one of the first and second predefined groupings of zone players such that the first zone player is configured to coordinate with at least one other zone player in the given one of the first and second predefined groupings of zone players over a data network in

order to output media in synchrony with output of media by the at least one other zone player in the given one of the first and second predefined groupings of zone players.

V. NON-INFRINGEMENT

A. Messaging Regarding Group Addition

35. I have studied Google's implementation of messaging and commands regarding adding a speaker to a group. For example, GOOG-SONOSWDTX-00048962 is a document titled "Multizone - cast_shell integration." This document states that "[s]ome CastV2 commands have been added to allow the Google Cast app to configure groups. Whenever one of the commands arrives, the group configuration is updated and stored in the prefs file on the device. The change is also sent to the MultizoneManager." *Id.* This document does not relate to the claimed "scenes." Instead, the document relates to speakers joining and being removed from groups, as well as other related issues. *Id.* There is no additional information that Sonos has identified or that I recognize as constituting a "scene."

36. I have also reviewed the "join_group" command in Google's systems, which is identified (among other places) in this document:

Id. The code snippet above discussing the join_group command does not mention or refer to "scene" information either. Rather, it shows that the data included in the join_group command is

a UUID, a name, and optionally a leader.

37. I understand that Sonos argues that the join_group command is an indication that the speaker "has been added" to a speaker group; Sonos Br. at 16:19-17:8, however, the evidence I have reviewed instead shows that the join_group message is actually a command instructing the speaker to join a group, rather than memorializing that the speaker has been added to the group. For example, Google's interrogatory responses state that "the join_group command instructs the device to join a group." Sonos Br. Ex. B. at 9.

38. Google's interrogatory response also states that the speaker "may announce itself as a googlecast service with the group name" and "the leader of the group may use Google Cast service to announce the presence of the group as a Google Cast service, including the port, so that devices may connect to it," which I understand Google has cited in its responsive summary judgment motion. *Id.* These disclosures show that in Google's system, the Google speakers may announce the presence of the group. This is technically different from the claimed situation, where the controller announces the addition of a speaker to a group through an indication to the speaker.

39. I understand that Dr. Almeroth has opined on the join_group message, and I have reviewed his declaration in full and on this topic in particular. Dr. Almeroth cites to the same technical documents referencing the join_group command that I have discussed above, and therefore his opinions do not change my own that the join_group message does not indicate that a speaker "has been added" to a group. Dr. Almeroth also cites to Google's source code, but he does not provide any specific articulation of why the join_group command shows that a speaker "has been added" to a group. *See* Dkt. 209-3 at ¶ 124. Based on my review of the materials, this is not the case. Rather, the source code relating to the join_group command is consistent with the documents discussed above and below, which is that it is a command for the speaker to join a group.

40. I have also reviewed GOOG-SONOSWDTX-00044046, which is a document entitled "Cast Setup Protocol V10." This document includes the following source code snippet:

GOOG-SONOSWDTX-00044076. I note that different variables are identified within the join_group message such as UUID, name, leader, temporary, channel_selection, multichannel_group, and stereo_balance. Neither Sonos nor Dr. Almeroth identify any of these variables as the claimed "scene" and I do not recognize any as a "scene," setting aside the "naming" of the group argument addressed below.

B. Naming Groups

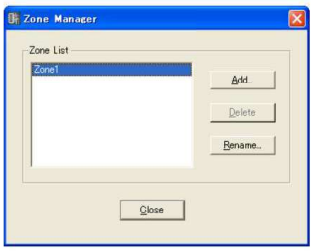
41. Sonos accuses the "naming" of speaker groups as meeting the claimed "common theme": "a Cast-enabled computing device also prompts the user to input a name for the 'speaker group,' which serves as the user's shorthand label of the common theme . . . ." 2022-01-20 Sonos Supp. Infr. Contentions Ex. D at 5-7; *see also* Dkt. 209-2 (Sonos MSJ) at 8-10. Naming speakers, however, is different from a "zone scene," as known in the art and described in the patent specification. The specification discusses both of these elements—zone scenes and group naming—separately and distinctly, and indeed a name is not a "theme" or a "scene," it is merely a name. For example, a user could choose to name a speaker group that he or she intends to be used for a party something completely unrelated, such as "upstairs," or "zero," or "infinity." None of these names have anything to do with the user's party, nor do they inherently have any effect that would instigate a grouping of speakers appropriate for a party. Likewise, the prior art does not refer to "zone scenes" and "group naming" interchangeably. Instead, the prior art refers to names of speaker groups alone as meaning a name of a speaker group. For example, the Yamaha DME

prior art discusses "adding, deleting, and ***renaming*** a zone":

Adding, Deleting, and Renaming a Zone

At least one zone is included within an area. In the default Area window that zone will be named [Zone1]. Multiple zones can be arranged in an Area.
When you click the [Zone Manager] command on the [Tools] menu, the "Zone Manager" dialog box is displayed. Here you can add, delete, or rename a zone.

"Zone Manager" dialog box



Zone List
Lists the zones included in the project. To change settings for a zone, select it by clicking it in the list.

[Add] Button
Adds a zone. Clicking here displays the "Please enter new name" dialog box. Enter a new name, then click [OK]. A zone will be added.

[Rename] Button
Changes the name of the zone selected on the list. Clicking here displays the "Enter new name for the current zone name" dialog box. Enter a zone name, then click the [OK] button.

NOTE

The current name of the zone you will be renaming is displayed in the "Current Zone Name" box of the "Enter new name for current zone name" message.

[Close] Button
Closes the "Zone Manager" dialog box.

Ex. A, Excerpts from DME Designer Version 3.5 OWNER'S MANUAL at 281-82.

As shown, Yamaha DME allows a user to name a zone by entering any text that the user chooses. Conversely, a "scene," which includes configuration parameters, is not referred to or synonymous with a named zone.

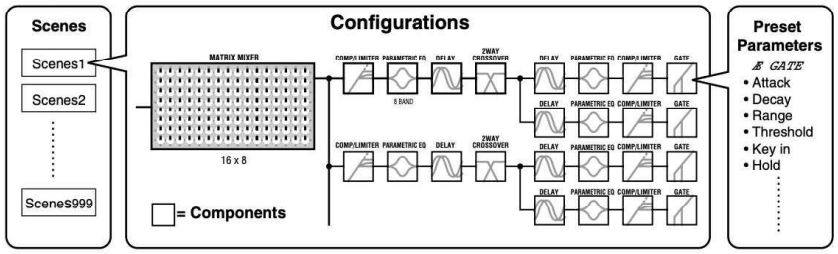
■ Preset Parameters

The set of parameters for all components in a Configuration is know as the Configuration's "Preset Parameters".

■ Scenes

A Configuration and its Preset Parameters are a "Scene".

Composition of scene



DME settings as well as Configuration and Preset Parameter settings are sent from the DME Designer application running on the computer to the Device Master via USB or Ethernet, allowing each device to function as a separate processor, independently from the computer. It is also possible to keep the DME Designer application on line and control the devices in real time.
It is possible to use the DME Designer to create Configurations that include multiple devices when the appropriate devices are connected.

Although it is possible to have multiple Zones in an Area, multiple Device Groups in a Zone, and multiple Scenes and Configurations in a Device Group, only one Area, Zone, Device Group and Configuration can be active and editable via the DME Designer at any one time. The active elements are known as the Current Zone, Current Device Group, Current Scene, and Current Configuration.

Id. at 5.

42. The same is true for the prior art Bose E4 Series II system. There, "areas" that may contain speakers are simply referred to as areas with a numeral. They are not referred to as "themes" or "scenes."

	Sources				Controls				Loudspeakers			
	1	2	3	4	AV1	AV2	VC1	VC2	M32SE	FS3	Total W	E4 Ch.
Area 1	●		●		●					●	100	1
Area 2	●	●		●				●	●		40	2
Area 3	●		●			●				●	50	3
Area 4	●						●		●		12	4
Area 5	●						●		●		48	4

Total System Power = 250W

By combining the maps you can easily combine sources, speaker types, and control types. The information placed in this table suggests that Area 1 and Area 3 need to be grouped separately because they are Auto Volume zones requiring separate E4 system outputs. Area 2 uses one standard volume control requiring one E4 output channel. Areas 4 and 5 share a common volume control and can be combined on a third E4 output channel. Since only four outputs are required and the total combined power requirement is less than 400W, only one E4 unit would be needed for this system.

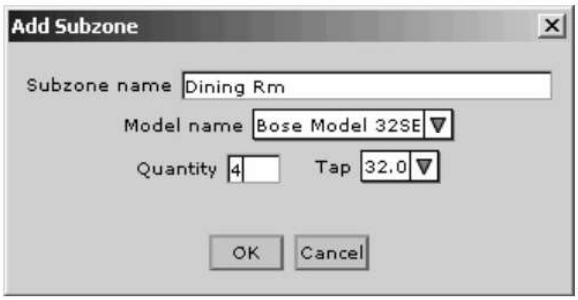
Ex. B, Excerpts from FreeSpace® E4 Series II Business Music System Owner's Guide at 19.

Users may also name "subzones," which are zones within zones, and identify the number of speakers within those subzones, their equalization settings, and more. In the example below, the user has named her subzone "Dining Rm." The Bose E4 Series II system never refers to subzone naming as a "scene" or a "theme."

To add a subzone

Click the **Add** button. When the Add Subzone window appears, enter a name for the new subzone, select the speaker model installed, enter the quantity, and select a tap setting. The Model Name list will include only speakers that are compatible with the Speaker EQ you selected.

Click **OK** to add the selections to the subzone table.



Id. at 47.

VI. Disclosure of Overlapping Groups and Related Claim Elements

43. As set forth above, claim 1 of the '885 patent requires a first zone player to be operating in "standalone mode" and play back media "individually." The first zone player is then added to a zone scene including the first zone player and a second zone player. Next, the first zone player is added to another zone scene, including the first zone player and a third zone player. Adding the first zone player to the two scenes does not change the first zone player from continuing to play back media individually until one of the zone scenes is "invoked," which causes the first zone player to "transition" from individually playing back media to playing back media as part of the invoked zone scene.

44. Based on my review of the patent specification and the provisional application and appendices, this sequence of commands and method of configuring scenes is not adequately disclosed. The specification merely discloses "zone configurations," speaker groups, and "zone scenes." For example, the specification does not describe having a speaker in standalone mode added to a zone scene but continuing to play back music individually, or transitioning to playing back music in the zone scene once that zone scene is "invoked."

45. The specification does not describe in written text or through illustrations adding a first zone player to two different scenes of zone players. Rather, the figures show that each zone player is added to only a single scene. This is illustrated in Figure 3:

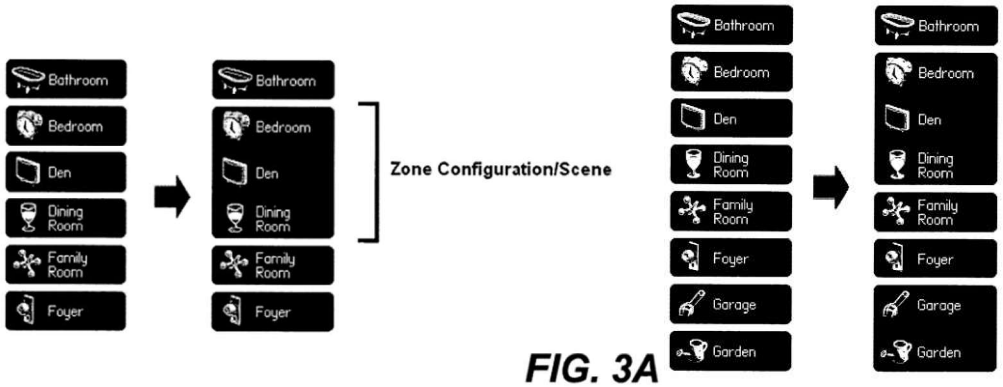


FIG. 3A FIG. 3B

46. Below I analyze specific portions of the specification and describe why each does not disclose the full scope of the invention and each element of claim 1. First, the specification

states:

> In order to satisfy such requirements, two groups of audio players must be established. In the morning, the audio players in the bedroom, the bathroom and the den need to be grouped for the broadcast news. In the evening, the audio players in the den and the living room are grouped for the music. Over the weekend, the audio players in the den, the living room, and a kitchen are grouped for party music. Because the morning group, the evening group and the weekend group contain the den, it can be difficult for the traditional system to accommodate the requirement of dynamically managing the ad hoc creation and deletion of groups.

'885 Pat. at 2:5-12.

47. First, I note that this portion of the specification is discussing the prior art and not the invention. Regardless, this portion of the specification discloses groups in the morning, evening, and weekend. Just by their very nature, the morning, weekend, and evening groups would not be used at the same time because, for example, the morning is a different time than the evening. Nor does the disclosure that "[w]ith a minimum manipulation, the audio players may be readily grouped," disclose that speakers may belong to more than one group at any given time. '885 Pat. at 2:18-20.

48. The specification also does not describe a "standalone mode" speaker, even though it is claimed. Nor does the specification describe what happens when a speaker in "standalone mode" is added to multiple zone scenes and the user decides to invoke one of those zone scenes. The specification does disclose the following:

> upon the activation of a saved scene, the process 600 checks the status of the players associated with the scene. The status of the players means that each of the players shall be in condition to react in a synchronized manner.

'885 Pat. at 10:56-58.

49. This portion of the specification describes being in "condition" to react in a synchronized manner, but it does not describe what that synchronized manner is, whether speakers that are playing music could be added to an existing zone scene, or what would happen afterwards. The specification does not disclose that players in "standalone" mode, for example, do not react in a synchronized manner as to the rest of the speakers within the "scene.".

50. I have also reviewed the "appendix" to the provisional application and specifically the portion of that appendix titled "What happens to the Music that's already playing when a Zone Scene is started." None of the "possibilities" identified in the provisional appendix are what has been claimed and therefore that provisional appendix is insufficient. Indeed, the provisional application appears to have been unfinished on this point, noting that the possibilities were "TBD" (*i.e.*, to be determined).

51. The first option given in the provisional appendix is that "the music will stop in any room that is part of the Zone Scene." SONOS-SVG2-00167534 at 4. Sonos did not claim this option, and instead claimed the "standalone" speaker continuing to operate in standalone mode after the speaker is added to the "scene." The second option is that the "user gets to choose from which of the ;joining' [*sic*] Queues the new zone group should play." *Id.* This is not claimed either. The user is not given the option of specifying the behavior of the "standalone" speaker in the claims; it must always continue playback in standalone mode until "invocation." The third option given in the provisional appendix is that "[i]n the case where only one of the zones in the new group was playing music, the new group should take the music (and Queue) of that zone." *Id.* This is not claimed. In the claims, the "standalone" speaker continues playback in "standalone" mode until "invocation," and there is no requirement or accounting for a single zone playing music in the group.

52. I have reviewed the original patent filing in detail, including the portions discussed above, and I do not believe that a person of skill in the art reading those portions of the specification would have understood that the Applicants were in possession of the full scope of the claimed invention.

VII. RESERVATION OF RIGHTS

53. If Sonos is permitted to set forth additional theories with respect to infringement, I will address those additional theories in a subsequent declaration. I reserve the right to raise further reasons for non-infringement in subsequent declarations, reports and/or at trial.

VIII. CONCLUSION

I, Dan Schonfeld, Ph.D., declare under penalty of perjury under the laws of the United States that the foregoing is true and correct.

Dated: May 5, 2022

Dan Schonfeld, Ph.D